

WHAT IS CLAIMED IS:

1. A high-frequency switch, comprising:

a substrate having thereon a main line electrode provided between two terminals, said main line electrode having a pair of opposed side edges;

a stub line electrode having a width direction and a longitudinal direction, with one end thereof connected to a side edge of said main line electrode and the other end thereof grounded; and

a ground electrode provided adjacent to said stub line electrode in the width direction thereof;

wherein said substrate has a semiconductor activation layer which extends below at least part of said stub line electrode and said ground electrode, between at least one side edge of said stub line electrode and said ground electrode;

and wherein a gate electrode which extends in the longitudinal direction of said stub line electrode is provided on said semiconductor activation layer between said stub line electrode and said ground electrode, thereby forming an FET structure.

2. A high-frequency switch according to Claim 1;

wherein said semiconductor activation layer extends from one end to the other end of said stub line electrode;

3. A high-frequency switch, comprising:

a substrate having thereon a main line electrode provided between two terminals, said main line electrode having a pair of opposed side edges;

a stub line electrode having a width direction and a pair of opposed side edges extending in a longitudinal direction, with one end thereof connected to a side edge of said main line electrode and the other end thereof grounded; and

a ground electrode provided adjacent to said stub line electrode in the width direction thereof;

wherein said substrate has a semiconductor activation layer which extends below at least part of said stub line electrode and said ground electrode, between both side edges of said stub line electrode and said ground electrode;

wherein gate electrodes which extend in the longitudinal direction of said stub line electrode are provided on said semiconductor activation layer between said stub line electrode and said ground electrode, thereby forming FET structures;

whereby said FET structures are formed at both side edges of said stub line electrode.

4. A high-frequency switch according to Claim 1, wherein said stub line electrode forms a coplanar waveguide along with said ground electrode.

5. A high-frequency switch according to Claim 1, wherein said stub line electrode is formed so as to have electrical length of approximately 90° with respect to the high-frequency signals to be applied.

6. A high-frequency switch according to Claim 1, wherein a plurality of said stub line electrodes with corresponding said FET structures are connected to said main line electrode.

7. A high-frequency switch according to Claim 6, wherein at least one of said stub line electrodes with a corresponding said FET structure is connected to each of said opposed side edges of said main line electrode in an opposing manner.

8. A high-frequency switch according to Claim 6, wherein a plurality of said stub line electrodes with comprising said FET structures are connected to one side edge of said main line electrode with a predetermined gap therebetween with regard to the longitudinal direction of said main line electrode.

9. A high-frequency switch according to Claim 8, wherein said gap between said stub line electrodes is of electrical length approximately 90° with regard to the high-frequency signals to be applied in the longitudinal direction of said main line electrode.

10. A high-frequency switch according to Claim 6, wherein a plurality of said stub line electrodes with comprising said FET structures are connected to each side edge of said main line electrode with predetermined gaps therebetween with regard to the longitudinal direction of said main line electrode.

11. A high-frequency switch comprising a plurality of high-frequency switches according to Claim 1, wherein respective ends of said plurality of high-frequency switches are connected to each other at a contact point via a main line electrode, said main line electrode

having an electrical length of approximately 90° as to high-frequency signals to be carried, between the contact point and the closest stub line electrode having an FET structure of each respective said high-frequency switch.

12. A high-frequency switch according to Claim 1, wherein said gate electrode is connected to a gate terminal on the opposite side of said main line electrode from said stub line electrode.

13. A high-frequency switch according to Claim 1, wherein said gate electrode is extended away from said main line electrode for being connected to a gate terminal.

14. An electronic device, comprising the high-frequency switch according to Claim 1.

15. An electronic device according to Claim 14, further comprising a communications circuit connected to said high-frequency switch.

16. An electronic device according to Claim 15, further comprising an antenna connected to said high-frequency switch.